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Implicit Testing and Men's Health Attitudes

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Abstract

There is a growing concern for men's health seek-behaviors in recent years. Men live on average 7 fewer years than women and are less likely to engage in health promoting behaviors. In this study, we used a lexical decision task in order to measure men's association of certain ideas with medically related images. We aimed to delineate which concepts are most associated with men's healthcare related attitudes and beliefs. We found that participants were significantly faster to identify masculinity and pain related words when preceded by medical primes, with the most significant findings relating to masculinity. There were also marginally significant results for the categories of femininity, now (concrete) and later (abstract). Participants were only marginally faster to identify words from these categories than the words from other categories. These results suggest that masculinity is highly associated with men's healthcare attitudes and may suggest that masculine socialization is an important contributing factor in men's healthcare behaviors.

Implicit Testing and Men's Health Attitudes

There is a growing concern for men's health patterns. Men in the United States live an average of 7 years fewer than women, live more unhealthy lifestyles, and are less likely than women to seek medical care (Davies et al., 2000). Though men seem just as apt to get treatment as women once symptoms become apparent, they are less likely to participate in preventative care and annual screenings (Wyke, Hunt, & Ford, 1998). Some have referred to men's deficits in healthcare as a men's health crisis. However, this crisis is not a new development. Much of the research that documents men and women's propensity to engage in positive or negative health behaviors does not explore why this might be the case (Gough, 2006)

Multiple theories about why men participate less in health behaviors are present. Men's behavioral trends indicate more emphasis on symptoms and signs of illness instead of engagement in proactive or preventative care. Men report heavy emphasis on maintaining their independence and their ability to take care of their own needs without the assistance of others. Some individuals theorize that both emphasis of independence as well as the concentration on specific symptoms can be attributed to larger concept of gender socialization in men.

There are many theories about why men are less likely than women to engage in healthy lifestyles. When family physicians were asked to identify why they believed men were less likely to engage in health behaviors they specified that men look for specific or concrete causes of illness instead of concentrating on more abstract practices of preventative medicine and detection (Talbot & Tudiver, 1999). This accounts for why men often do not seek help until their illness has progressed or become severe.

However, if men believe the illness will infringe upon their ability to be independent or self-reliant these factors will contribute to how long they wait before reporting symptoms. A study by Smith, Braunack-Mayer, Wittert, and Warin (2007) interviewed aging men and found

that the concept of being independent was one of the primary reasons for not seeking medical care. The participants identified independence as both a quality of life indicator but also a personality characteristic that was essential to their self-concept; however, this was not as essential to their female partners. Their partners encouraged them to seek medical care regardless of its effects on their independence.

Another theory is that concepts such as independence, strength, and usefulness are aspects of a larger gender socialization in men. Socialization of traditional masculine gender roles, which emphasize invulnerability, engaging in risk taking and unhealthy behavior, would appear to account for at least some of the trends in men's behavior we see (Davies et al., 2000).

A study by Davies et al. (2000), that brought together 7 focus groups consisting of 3-9 college males each found that the males brought up many health concerns, but often failed to act on their concerns. In the study the young men reported that "their greatest barrier was their socialization to be independent and to conceal their vulnerability" (Davies et al., 2000). This study suggests that gender socialization may be one of the largest contributing factors to men's health attitudes.

However, the data in this study is all derived from self-report measures which, due to multiple forms of bias, cannot always be trusted. One of the most prevalent forms of bias in self-report measures is social desirability bias in which participants may report different feelings than what they are experiencing because they want to appear more socially desirable. Therefore, if the discussion group conversations in the previous study took on a theme of socialization, then the participants might be more apt to report this to be a barrier rather than fear of going to the doctor or fear of losing one's autonomy to being sick. Another factor that can confound self-report measures is the assumption that individuals are self-aware enough to report the problem. The

participants may not have been able to reflect on the overarching reasons for their avoiding care, or may not have been able to verbalize the reasons they did not seek care and instead chose reasons that seemed salient at the time.

In an attempt to avoid these sources of bias, implicit measures were used in the current study to measure the level of association between medical related images and potential underlying sources of avoidance of healthcare in order to see which associations are strongest. An implicit or indirect measure is one that captures the automatic associations an individual has in memory and does not require them to formulate a response to a direct question (Olson, 2009). Implicit tests such as the Implicit Association Test (IAT) are able to test the strength of an association based on reaction times. Most often individuals are shown an image and if they feel negatively about that image they are faster to identify negative words rather than positive words because negative feelings have been activate after seeing the image which can be referred to as a prime (Olson, 2009).

Methods

Participants

Participants consisted of 116 freshman males who participated in order to gain partial credit for their introductory psychology course. Seven participants were excluded due to having error rates of over thirty percent.

Participants were asked to complete a lexical decision task. A lexical decision task consists of presenting a stimulus image and then either a word or non-word (scrambled letters) to the participants and asking them to identify whether the target word is either a word or a non-word. In the current study we chose to look at 16 different categories of words: Independence/Dependence, Strength/Weakness, Useful/Useless, Life/Death, Masculinity/Femininity, Pain/Pleasure, Anxiety/Calm, Now (concrete)/Later (abstract). Each

category having six words each (see Appendix A). Each category corresponded to a possible hypothesis of why men underutilize healthcare.

Participants were tested in groups, in which they were briefly told about how to complete the task (see Appendix B). Each participant was seated at their own computer monitor and keyboard which was separated from the other participants by a privatizing divider. In any given trial, either an image prime or a blank screen was presented for 315 milliseconds and immediately followed by a target word which the participant would be asked to identify as a word or a non-word. The target word would remain present until the participant responded or up to 1000 milliseconds.

There were 4 blocks, each with 96 trials per block. Half of the trials included a medically related prime image such as a tongue depressor, an Rx bottle, a stethoscope, blood pressure cuff, or x-ray (see Appendix C). The other half of the trials included no prime. Half of the target words used were correct English words described above; the other half were non-words whose letters were scrambled. The latency to respond as well as the accuracy of their responses was recorded for each trail. The entire task took about twenty minutes to complete. After completing the task participants were thanked and debriefed.

Results

All non-word trials were deleted since their inclusion was only to facilitate balance within the task. The study has an overall error rate of 17.3%; however, when the seven excluded participants are removed from the data the study has an error rate of 7.5%. All analysis compared response latencies to words within a category comparing trials where the words were proceeded by a prime versus when they were not. A within subjects T-test was used to analyze how quickly participants identified a word as a word for each word category. We saw significant effects in the categories of masculinity and pain as well as marginal effects in the categories of now (concrete),

later, and femininity (see table 1). Participants were faster to identify masculine and pain related words when presented with a medical picture prime opposed to no prime. They were also marginally faster to identify now (concrete), later, and femininity as words when presented with a medical picture prime opposed to no prime in relation to words in the other categories.

Discussion

The results show that masculinity related words were more quickly identified as words than any other category of words when preceded y medical-related primes. This supports the belief that men's attitudes about healthcare are associated with and affected by their concept of and socialization into masculinity. However, relying solely on the concepts of socialization takes responsibility away from each individual man to maintain his own health and instead paints all men as victims of a larger system in which they are powerless (Gough, 2006). It is important to remember that there are a myriad of factors that affect men's participation in healthy behaviors such as race, social class, age, and educational level and that not every man is equally vulnerable (Gough, 2006).

From the results, we cannot determine which aspects of masculinity affect healthcare decisions or whether it affects them positively or negatively; however, we can determine that masculinity is one of the fastest associations made by our male participants. The link between masculinity and decreased healthcare participation has been discussed in multiple studies. Since masculinity has been found to be a fluid social construct it is possible that there are mechanisms for changing men's trends in healthcare participation

One option that could affect men's healthcare attitudes is the application of self-affirmation. Self-affirmation is the reinforcement of one's self-concept so that their self-concept or self-image is not made vulnerable by new information. This in turn makes individuals more

accepting of new information. "Self-affirmation Theory begins with the premise that people are motivated to maintain the integrity of the self" (Sherman & Cohen, 2006). Integrity in this sense can mean many things such as being a good person morally, or a good group member socially. Regardless of which meaning one is referring to, all meanings are derived from social constructed standards that individuals attempt to emulate (Sherman & Cohen, 2006). People go as far as to reject new information about health risks such as their risk for cancer, or other illnesses, in order to protect their masculinity or individualism. However, once a person has been reassured or self-affirmed that they meet their personal standards of integrity, they are more likely to be receptive to new information. They would no longer consider their self-image to be dependent on new information and therefore would be less defensive about accepting this previously threatening information (Sherman & Cohen, 2006).

For men we speculate that self-affirming masculinity could reduce their opposition to information that threatens their masculinity such as information about health risks and regular health screenings, which violate the principle that men should be invulnerable. More research on this topic is crucial in understanding the dynamics of self-affirmation and masculinity. An opposing hypothesis is that affirming masculinity might make the tenets of masculinity more salient and in turn make men more dismissive and less receptive to healthcare information. Thus, more research should be done on this topic in order to properly understand the dynamics of affirming masculinity to avoid deleterious consequences to men's participation in healthcare.

The result of the study show that masculinity is a concept that is activated when men think about healthcare. Other research has indicated that masculinity is detrimental to men's participation in healthcare due to its emphasis on invulnerability and risk taking. Further research on the effects of self-affirmation in men's healthcare participation is needed prior to

implementing self-affirmation strategies. This is because the mechanisms linking self-affirmation and masculinity are not yet fully understood. It is possible that affirming masculinity might actually negatively affect men's participation in the healthcare system. Thus it is important that the link between self-affirmation and masculinity be studied so a deeper understanding of it can be achieved. A deeper understanding self-affirmation in relation to masculinity would clarify whether or not self-affirmation results in positive or negative outcomes for men. If it is determine that the outcomes prove to be positive then the mechanisms for change could provide positive health outcomes for men.

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Word Category	Mean Difference (no prime- prime)	SD	t(115)	p-value
Independence	0.159	129.8	0.013	0.99
Dependence	-0.372	120.2	-0.03	0.97
Strong	-2.694	136.25	-0.21	0.83
Weak	-11.003	98.23	-1.21	0.23
Usefull	6.357	106.8	0.64	0.52
Useless	2.154	118.63	0.196	0.85
Life	16.343	104.81	1.68	0.096
Death	-8.553	106.47	-0.87	0.39
Masculinity	29.787	108.91	2.95	0.004*
Femininity	20.488	125.03	1.77	0.08†
Anxiety	7.388	98.72	0.8	0.42
Calm	3.203	99.29	0.35	0.73
Pain	26.998	131.28	2.22	0.03*
Pleasure	14.595	118.62	1.33	0.19
Now	20.779	114.97	1.95	0.05†
Later	21.052	127.46	1.78	0.08†

Table 1

* = p<.05, †= p< .10. Positive mean differences indicate faster identifications of target words when preceded by a prime versus not.

Appendix A

Independent: autonomous, independent, free, individual, liberty, control

Dependent: dependent, subordinate, clingy, needy, helpless, submissive

Strength: power, strong, tough, forceful, potent, sturdy,

Weakness: weak, fragile, frail, feeble, vulnerable, flimsy

Useful: useful, handy, helpful, productive, functional, working

Useless: futile, inept, worthless, broken, failing, unusable

Life: alive, active, growth, energy, vitality, dynamic

Death: dead, dying, mortality, deceased, grave, perish

Masculinity: manly, male, macho, masculine, guy, gentleman

Femininity: womanly, female, feminine, lady, girly, ma'am

Anxiety: anxious, panic, nervous, worried, dread, stress,

Calm: serene, harmony, tranquil, calm, peaceful, relaxed

Pain: pain, hurt, sore, sting, agony, ache

Pleasure: pleasure, joy, bliss, ecstasy, euphoria, fun

Now/concrete: now, today, immediate, current, near, close

Later/abstract: later, future, far, delay, postpone, distant

Appendix B

Script:

Thank for you agreeing to be in our study. Please don't press any keys until you are instructed to do so. There are two parts to this study. The first part is a word processing study. You will be presented with words and non-words on the computer screen and your job is to categorize them as quickly and accurately as possible. In the second part, you'll answer some questions about your health care attitudes. The experiment will last about 30 minutes and you'll receive .5 credits for your participation. If you have any questions about your participation or incentives for this research, I can answer them now. If not, then please read and sign the consent sheet you see on the desk.

Appendix C